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# Improving Students' Competencies through Perception of Mentoring in an Online Master of Teaching Training

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**Abstract:** This work aimed to learn online higher education students' perception of mentoring and to know how it should be planned in virtual environments to favor student learning. With these new environments, the mentoring process needs to be reconceptualized which can, in turn, be adapted to the online teaching format, attending to its specific use to enhance the capabilities of the professionals. Based on this eminently quantitative methodology, students' perception was sought by means of teaching evaluation questionnaires that students completed at the end of each subject. The results indicated that students favorably perceived the way the mentoring models were considered, and no significant differences were found among variables, e.g. specialized subject taught or questionnaire items.

**Keywords:** Information and Communication Technologies, Mentoring, Students' Perception, Online Programs, Social Improvement

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## 1. Introduction

The integration of Information and Communication Technologies (ITC) into education systems and teaching-learning processes has led to new models used to conceive and develop training actions. Therefore, ITC are the background of various formats used for communication and interaction among individuals, which means that relations in models, such as online education, cannot be understood without technology being present.

It is precisely in this context where the institutions that include teaching-learning processes which involve ITC come about. This is the case of our university, the VIU.

Thus online collaborative learning comes about, which implies "learning collaboratively by sharing objectives and tasks with other people, where ITC are the mediators of this process" (Torràs, 2013, p. 150).

Consolidating this online education model necessarily demands reconceptualizing the key aspects of any education stage and level; e.g., the mentoring concept which, in face-to-face teaching, is offered physically and for specific times.

The online education model has to be considered flexibly, and also spatially and temporally; in spatial terms since there

is no common physical place to develop it, and in temporal terms as this model focuses necessarily on student requirements.

Former studies have been conducted into "alternative" teaching models, understood as those that are not undertaken in conventional and physical times and places, which we analyze in the next point.

ITC enable new forms of communication and interaction, which become an aspect that influences interpersonal relations (Delors, 1996; Blázquez, 2001; Berríos & Buxarrais, 2005).

ICT have been integrated into all areas of life, and citizen participation progress has contributed to completely different aspects through mobile devices or workforce organization (Padilha, 2011). To these, we could add crowdfunding initiatives or websites like Change.org, among others.

When this phenomenon has been analyzed in the education field, specifically in higher education, integration of technologies has enabled a preliminary distance education model to be developed, which is mediated by sending materials, almost without mentoring, to online face-to-face models, which represent considerable development.

The online higher education model's activity is based,

among other variables, on using the learning platforms where academic activity is carried out, and where the virtual mentor figure is a representative of a new teaching role. Sánchez and

Castellanos (2013) analyzed the competences that virtual mentors required to be able to work in online training environments. The above authors outlined the following:

*Table 1. Teacher's Competences for e-Mentoring.*

<b>Pedagogic design</b>	<b>This refers to the mentor's knowledge, practical skills and attitudes to work with learning theories, to diagnose training requirements or to work in interdisciplinary teams.</b>
Evaluation competences	They refer to mastering the main activities by considering training and constant evaluations, self-assessing mentoring action, defining realistic goals and using evaluation as a communication process.
Management and organization competences	They include aspects like advertising courses, applying international standards or seeking finance for training actions.
Communication competences	They focus on clearly spoken and written expressions, utilizing a non authoritarian style, using online humor or promoting interchange among students.
Mentoring competences	They are associated with choosing the most suitable mentoring system, facilitating resources and useful information, the capacity to moderate debates and to feedback what has been discussed, detecting student requirements and expectations, and creating a trusting climate.

Indeed Valverde and Garrido (2005) pointed out that mentoring work is one of the main factors that determines quality training in a virtual learning environment. According to Gisbert's classification (2002), the areas of virtual teachers' action, tasks and roles are information consultants,

collaborators in groups, learning facilitators and academic supervisors.

Schichtel (2010) identified seven competences that should characterize online mentors which, for our research work, were considered basic:

*Table 2. Core competence skills in e-mentoring.*

<b>1</b>	<b>Online developmental competence for facilitating educational development, professional development, and psychosocial development.</b>
2	Social competence for facilitating social presence and overcoming online challenges related to distance, time and lack of social signals.
3	Cognitive competence for fostering critical analysis and reflective practice.
4	Teaching competence.
5	Communication competence in various formats and media
6	Managerial competence for administering and organizing online activities.
7	Online technical competence for mentoring by means of relevant virtual environments.

Schichtel's proposal includes key e-mentoring aspects in higher education. It stresses students' perception from a holistic viewpoint, which allows work with students from an educational, professional and psycho-social perspective.

Palloff and Pratt (2011. pp. 13-14) present some key elements that define excellence in online teaching. An excellent online instructor:

*Table 3. Key elements in online teaching.*

<b>1</b>	<b>Understands the differences between face-to-face and online teaching, and can effectively implement them into the development and facilitation of online classes.</b>
2	Is committed to this form of teaching and uses the online environment to his/her advantage to deliver an online class.
3	Is able to establish presence early in the course and encourages students to do the same.
4	Is highly motivated and is, in turn, a good motivator for students.
5	Understands the importance of community building and spends time at the start of the class for this purpose.
6	Promotes interactivity between students by developing good discussion questions that engage them in and encourage them to seek materials to provide their own responses.
7	Incorporates collaborative work into the design and delivery of an online class.
8	Respects students as partners in the learning process.
9	Is active and engaged throughout the course, and provides timely, constructive feedback throughout.
10	Is open, flexible, compassionate, responsive, and leads by example.

The definition of these elements is particularly valuable from the social knowledge building viewpoint as it incorporates the importance of the community as an area for collaborative learning.

Many elements can be shared if we consider the idea that physical mentoring is the origin of network mentoring. As Pagano indicated however (2008), virtual learning environments have defining features that form the basis of a new mentoring model: physical teacher-student separation, use of technical means, organizing support and mentoring, independent flexible learning, two-way communication, a technological approach and mass communication.

When we examine Llorente's contributions (2006), we consider that virtual mentoring has to become a support and counseling process for students to interact, and to become part of the new training, technological and human context. This process will include dispelling doubts and accompaniment while acquiring contents. This favors overcoming the possible feeling of isolation and neglect when not physically in contact with one's mentor.

Similarly, Rodríguez (2014) outlines that the online mentor in the learning-teaching process must perform tasks related with three areas that mainly ensure overall attention: a guidance task (from an administrative, academic and

technical viewpoint), a social task (that centers on support and converts the mentor into a reference for students by creating a positive social environment) and a didactic task (that centers on the learning methodology and on student evaluations).

When we focus on students' perception of mentoring, studies like that by Besolí and López (2001) have concluded that, according to online training experiences, students considered the mentor's role as one of the key elements for good learning-teaching process functioning. Students particularly evaluated the mentor's problem-solving and motivation tasks.

Likewise, Jenaro et al. (2013) reported the benefits of mentoring in virtual environments from the teacher perspective. They concluded that such environments are very important for guiding learning processes, can improve them by conferring flexibility, and help dispel doubts and raise questions that are not usually addressed in class.

According to García-Valcárcel (2008), it is worth emphasizing that students' perception of the characteristics that a good mentor must have (affectivity, communication qualities, closeness, a taste for teaching or planning) can be dealt with and assumed from an online teaching model.

With similar research results, Kumar, Johnson and Hardemon (2013) have shown that students in online mentoring highlight the value of using multiple technologies and media, e.g. e-mail and telephone, web-based synchronous communication, or even attempting to hold face-to-face meetings, depending on where they lived, which they worked on as useful mentoring strategies.

The start point is a holistic model of the online teaching, where it is important to consider the social, the cognitive and the teaching presence (Garrison & Anderson, 2005), that should be taken as key elements for the enhancement of the cognitive, emotional and professional skills of students.

Thereby, the online mentoring model is called to break the traditional and geographical distances between teachers and students. In this way, Moore (1993) defines the "transactional distance", identifying three key interactive components that are essential to promote an excellent online learning process: dialog between learners and teachers, structure of the instructional programs and autonomy of the learner.

According to today's reality, which intends to develop tools so that online education becomes a way to help communities develop, the present work aims to:

- Know the perception of the mentoring process of the students registered for online higher education.
- Verify possible differences between perceiving mentoring processes according to the specialized subject for which students registered.
- Analyze the best evaluated online mentoring aspects.
- Explain how the mentoring process is contemplated in virtual learning environments based on a specific case.

## 2. Methodology

In line with the above objectives, this section describes the

methods, participants and instruments involved to help solve the problem raised.

### 2.1. Method

The present study was conducted from a quantitative perspective because it established mean scores to analyze students' perception of the elements that comprised the mentoring processes that formed part of a higher education degree taught online.

The quantitative approach was followed to learn the study phenomenon exactly as the questionnaire responses obtained from the study sample were direct scores.

### 2.2. Participants

The VIU University is an online university whose teaching methodology is based on technologies, including synchronous real-time sessions by video conference, whose teaching-learning activity takes place in a virtual campus which, among other matters, allows contents to be asynchronously hosted and communicated.

Nowadays, our University's methodological design offers its students mentoring according to two activity types:

- Synchronous activities: group mentoring is organized at the beginning and end of each subject, during which students can voice their doubts about how subjects are organized and run.
- Asynchronous activities: students can dispel doubts and obtain guidance on an individual basis by Virtual Campus Forums and emails.

Although this mentoring methodology is used for all this institution's degrees, the present communication centers on the University Master Degree of Teacher Training in Compulsory Secondary Education, Baccalaureate, Vocational Training and Language Teaching because it is the degree for which the most students registered.

The analyzed data correspond to academic year 2014-2015, when 990 students registered, who comprised our study population. Students registered for the following specialized subjects: Mathematics and Computer Studies, Physical Education, Foreign Language (English), Spanish Grammar and Literature, Geography and History, Music, Training and Job Orientation, Educational Orientation and Drawing.

Each student could voluntarily answer the teaching evaluation questionnaire of the seven subjects taught. Finally, the 1670 answered questionnaires about the different subjects that made up the Master Degree's syllabus were analyzed.

The statistical analysis was done with Microsoft Excel 2010, which gave central tendency measures. The corresponding graphical representation was created.

### 2.3. Instrument

Information was collected by a questionnaire that evaluated the quality of the education received. Students filled in this questionnaire when they finished each subject that comprised the degree they were studying. With this

questionnaire, students evaluated the methodology followed, the role played by various educational agents, the material used, among others.

This questionnaire was answered by directly scoring on a

scale from 1 to 10, where student satisfaction was expressed according to the statements considered.

The questionnaire contained eight items, which are shown below:

Table 4. Questionnaire arrangement.

1. The teacher adequately explains how to perform activities	This item intends to learn if the teacher is capable of clearly transmitting how students perform the tasks that make up the portfolio of the subject in question.
2. The teacher's involvement in forums and video conferences is suitable (valuable, clarifying, etc.)	This item aims to obtain students' evaluation of their teacher's participations by focusing on their valuableness and clarity
3. The way that activities are arranged is clear, logical and organized, and has helped me in my learning.	This item asks students if they perceive that activities are ideal for the subject, and if its content is a key aspect that students can evaluate with this item.
4. The materials that the teacher provides to learn this subject are suitable.	Materials are an important part of teaching-learning processes, particularly in online education. Students use this item to evaluate if these materials are suitable.
5. I think that the evaluation process followed in the subject is appropriate.	Evaluations generally tend to be a bone of contention. Students can evaluate the suitability of the evaluation system of the subject with this item.
6. I have received personalized follow-up during my learning process.	Students have to feel they are accompanied and not neglected in their individuality, which they can evaluate with this item.
7. The teacher encourages a suitable relation with students and him/herself.	Interpersonal relations are important in any stage and form of education. Students can offer their views on the teacher-student relation with this item.
8. I am generally satisfied with this teacher's teaching work	Students use this item to summarize previous items with a direct score.

As we can see, the questionnaire considered aspects about how the teaching-learning process as part of the subject itself took place (items 1-6). It also included an item about interpersonal relations (7), and another one on student satisfaction with the teacher's teaching work (8).

### 3. Results

In order to know the perception of the mentoring process of the students registered for online higher education, we present the obtained results according to three variables:

- Analysis per specialized subject: Geography and History, Spanish Grammar and Literature, Foreign Language (English), Educational Orientation, Mathematics and Computer Science, Training and Job Orientation, Music, Drawing and Physical Education. Thus we will be able to verify possible differences between perceiving mentoring processes according to the specialized subject for which students registered.

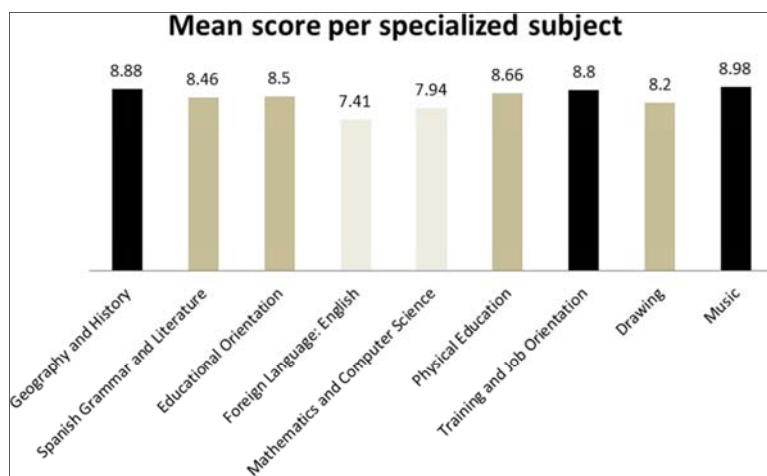
- Analysis per item by dealing with each item specifically. This information will help us to analyze the best evaluated online mentoring aspects.

- An individual analysis of items per specialized subject. Thus we will be able to know possible differences between specialized subjects in specific items.

1. Analysis per specialized subject: Geography and History, Spanish Grammar and Literature, Foreign Language (English), Training and Job Orientation, Educational Orientation, Music, Mathematics and Computer Science, Drawing and Physical Education

Students' evaluation of the mentoring processes for all the specialized subjects was positive, with a range of 1.57 points. Scores ranged between 7.41 for Foreign Language (English) and 8.98 for Music.

Two specialized subjects scored below 8 (English and Mathematics and Computer Science), and three scored over 8.8 (Music, Geography and History, and Training and Job Orientation).

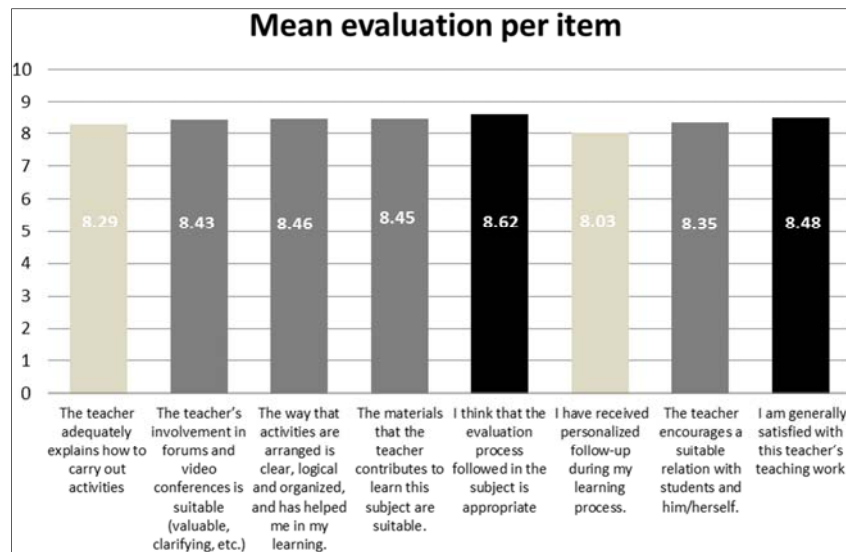


Source: The Authors

Figure 1. Mean score of the mentoring process per specialized subject.

2. Analysis per item.

The mean score of the eight items that made up the questionnaire ranged between 8.03 points for the item that referred to personalized follow-up and 8.62 points for the item that evaluated a suitable relation between students and their teacher (a range of 0.59 points).



Source: The Authors

Figure 2. Mean evaluation per item.

Apart from the above item about favoring suitable relations, the aspects best evaluated by students were their general satisfaction with their teacher's teaching work (8.68 points), appropriately explaining activities (8.46) and the suitability of the teacher's participation in the teaching-learning process (8.45).

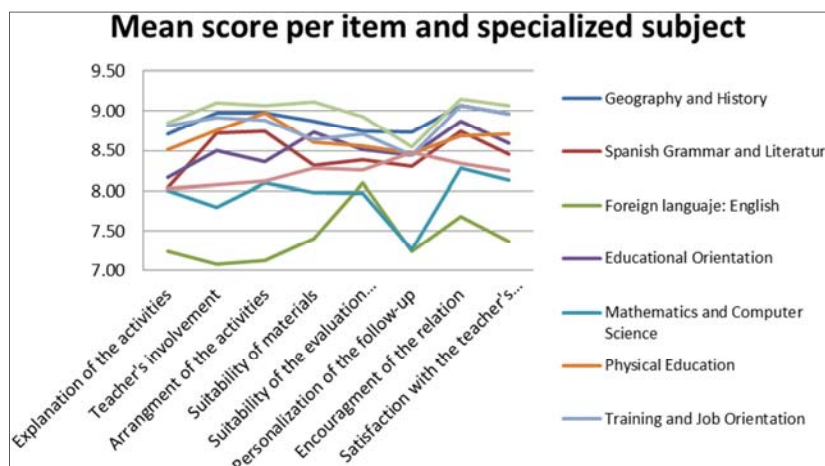
Bearing in mind that all the evaluations scored over 8 points, the aspects with a lower mean score were those that referred to personalized follow-up (8.03 points), the way that activities were arranged (8.29) and the suitability of the evaluation process (8.35).

3. Analysis of items per specialized subject

For most specialized subjects, the item with the highest score was that about encouraging relations among students.

This was the case of all the specialized subjects except for: English, where the best evaluated aspect was the suitability of the evaluation; Physical Education, the best scoring aspect was explaining activities; Drawing, the best evaluated aspect was personalized follow-up.

Conversely, the aspects that were generally more poorly evaluated were personalized follow-up for specialized subjects Mathematics and Computer Sciences, Physical Education, Training and Job Orientation, and Music, and a suitable explanation of the activities for specialized subjects Geography and History, Spanish Grammar and Literature, and Educational Orientation.



Source: The Authors.

Figure 3. Mean score per item and specialized subject.

## 4. Conclusion and Discussion

From these results, we generally concluded that the level of student satisfaction with the Master Degree of Teacher Training was positive, with a mean score over 8 for almost all the specialized subjects.

Like the analysis per specialized subject, the mentoring process in all the specialized subjects was favorably perceived, and the lowest mark was 7.41 (Foreign Language: English) and the highest score was 8.98 (Music). We understood that these differences were a response to the scarce evaluation that students made of the specialized subject of English in almost all the items, especially those about how the subject was taught. This could imply gaps in one of the main online mentoring aspects reported by Palloff and Pratt (2011), those that relate to understanding the differences between face-to-face and online teaching, and the ability to effectively implement them into undertaking and facilitating online classes.

The aspect that was generally more positively evaluated by students was favoring an adequate relation between the teacher and his/her students (8.62). This aspect agrees with those indicated in the proposal by Palloff and Pratt (2011) and by Schichtel (2010). The worst evaluated element was personalized follow-up of learning. This aspect, which continues to be a handicap in any teaching model and education stage, has to become a focal point to work on, particularly in online training.

As student satisfaction exceeded a score of 8 for nearly all the questionnaire items, our findings coincide with those reported in the studies by Besolí and López (2001) and by Kumar, Johnson and Hardemon (2013), which concluded that online training students particularly valued problem-solving mentor motivation tasks, and the tools and materials employed.

We also concluded that the Master Degree of Teacher Training students considered that the mentoring process contemplated by the VIU University met their requirements in a virtual learning environment. The VIU students positively evaluated similar aspects to those reported by García-Valcárcel (2008), such as closeness, communication qualities or planning teaching.

Hence the online higher education model of mentoring becomes an opportunity and an area of inestimable value to build useful knowledge and skills to be put in practice.

Based on this reality, we confirmed that mentoring in such environments helps acquire and develop the basis competences for all the education stages proposed by the Spanish Ministry of Education based on key European Union competences (2007). To the implicit contribution to digital competences, such important matters can be added, like communication (synchronous or asynchronous, oral or written, in this case), the learning to learn competence (based on interchanges between the teacher and his/her students regarding matters of the teaching-learning process itself) or social and civic competence (by favoring interpersonal relations).

As a final reflection it is worth stressing that virtually all the differences found in the present study respond to the teacher's personal characteristics. Thus one key question is to help the teachers who teach an online model that helps acquire and develop the competences required to become excellent online mentors.

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